REMARKS

This Amendment is filed in response to the Office Action mailed July 13, 2004. A Petition to Extend Time under 37 C.F.R. § 1.136(a) for two (2) months, up to and including December 13, 2004, is enclosed.

An Information Disclosure Statement, with the appropriate fee for a large entity, is entered herewith.

A Rule 78 Petition in entered under separate letter, on an even date herewith, under Certificate of Mailing, 37 C.F.R. 1.8(a), as discussed *infra*.

Claims 1, 3, 7, 8 and 9 are amended in response to a Section 112, second paragraph rejection, as discussed *infra*. No new matter is added.

Response to Priority Issue Under 35 U.S.C. § 120

An issue of an alleged break in continuing data has been raised by the Examiner. The Examiner takes the position that allegedly, "a break in continuity has occurred in the listed continuing data. Priority will only be given to application 08/461,268, with a date of June 5, 1995." Applicants respectfully disagree. However, in order to speed prosecution and to further show that any such editorial oversight was unintentional, Applicants have entered, on an even date herewith and under appropriate mailing conditions as stipulated under 37 C.F.R. 1.8, a Petition under 37 C.F.R. §1.78(a)(3), "To Accept an Unintentionally Delayed Priority Claim Under 35 U.S.C. § 120" (herein, "Petition"). As required, the Petition contains (1) instructions to charge the fee under 37 C.F.R. 1.17(t) to Deposit Account No. 13-2755 as a large entity; (2) a statement that the delay between the date the claim was due under 37 C.F.R. § 1.78(a)(2)(ii) and the date of entry of this Petition was unintentional; and, (3) the continuing data for the above-identified is now amended to read as follows:

-- This application is a continuation of U.S. application serial no. 08/461,268, filed June 5, 1995, now abandoned, which is a continuation-in-part of PCT international application no. PCT/US94/02751, filed March 14, 1994, from which a U. S. national phase application was entered May 25, 1995, designated as U.S. application serial no. 08/450,462, now abandoned; PCT international application no. PCT/US94/02751 being a continuation-in-part of U.S. application serial no. 08/089,985, filed on July 8, 1993, now abandoned, which is a continuation of U.S. application serial no. 08/461,268, filed March 18, 1993, now abandoned. --

Applicants respectfully takes this opportunity to summarize the contents of the above-mentioned Petition. The present application is a continuation of U.S. application no. 08/461,268, filed June 5, 1995, now abandoned. A priority claim to this earlier application was made on the data sheet filed concurrently with the above-identified application. The '268 application at page 1 contains the remainder of continuing data relied on by Applicants. The continuing data from the '268 application reads as follows:

> This is a continuation-in-part of the U.S. National Phase of PCT/US94/02751. The U. S. national phase application was filed in the U. S. P. T. O. on May 25, 1995 and has been designated as U. S. S. N. _____ (Attorney Docket No. 18972PI). PCT application PCT/US94/02751 was filed in the PCT on March 14, 1994. PCT/US94/02751 is a continuation-in-part of U.S.S.N. 08/089,985, filed on July 8, 1993, now abandoned, which was a continuation of U.S.S.N. 08/032,383, filed on March 18, 1993, now abandoned.

Presumably, the Examiner takes the position that failure to designate the U.S. application serial number for the U.S. national phase of PCT/US94/02751 constitutes a break in continuing data for this series of applications (i.e., U.S. application serial no. 08/450,462, filed May 25, 1995). Applicants respectfully disagree. PCT international application PCT/US94/02751 is listed in the continuing data from the '268 application as being a continuation-in part of U.S. application serial no. 08/089,985, filed July 8, 1993. Applicants respectfully take the position that this information is adequate to properly denote continuity of the respective series of U.S. and/or international applications. Applicants respectfully note the following:

(1) PCT/US94/02751 was filed March 14, 1994, claiming priority to both U.S. application serial nos. 08/089,985 (July 8, 1993) and U.S. application serial no. 08/461,268 (March 18, 1993).). A copy of the front page of WO 94/21797 is attached as Exhibit C. To this end, the deadline for entry into U.S. national phase prosecution was September 18, 1995.

(2) PCT/US94/02751 designated the U.S., as shown on the front page of WO 94/21797.

Therefore, Applicants respectfully take the position that listing of PCT/US94/02751 only, as opposed to listing of both the PCT international data and any related U.S. national phase filing data, is appropriate in view of the June 5, 1995 filing date of the '268 application (i.e., prior to the 30 month deadline of September 18, 1995 for entry into U.S. national phase prosecution). Applicants respectfully turn to 37 C.F.R. § 1.78 (a)(2)(i) for guidance, which states in part:

> [C]opending nonprovisional applications or international applications designating the United States of America must contain or be amended to contain a reference to each such prior-filed application, identifying it by application number (consisting of the series code and serial number) ***or*** international applications number and international filing date and indicating the relationship of the applications. (emphasis added).

Applicants respectfully take the position that the spirit of 37 C.F.R. § 1.78 (a)(2)(i) has been met by listing within the continuing data the PCT international application number, PCT international filing date, and the relationship of this applications to earlier filed applications. For clarity sake, the current continuing data has been amended to include reference to U.S. application serial no. 08/450,462. However, Applicants take the position that this additional information is additive and is arguably not required to claim priority to PCT international application PCT/US94/02751 at the time of the June 5, 1995 filing date of the '268 application.

If entry of the data in question is deemed to be required, Applicants respectfully reiterate that exclusion of such data was unintentional. In addition, instructions were provided in the Petition were provided to charge the appropriate fee under 37 C.F.R. § 1.17(t), as a large entity, as well as having amended to continuing data to include reference to the March 25, 1995 U.S. national phase filing.

Rejection of Claims 1-3, 7-11 and 17 Under 35 U.S.C. § 112, First Paragraph

Claims 1-3, 7-11 and 17 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly "failing to comply with the enablement requirement." The Examiner contends that "[t]he claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or which it is most nearly connected, to make and/or use the invention." The Examiner further takes the position that these alleged defects may be cured by deposit of the plasmid V1Jns as set forth in 37 C.F.R. § 1.801. Applicants respectfully disagree. It is well within the grasp of the artisan

of ordinary skill to utilize the present specification to generate any related DNA polynucleotide vaccine of the present invention. Applicants guide the artisan step by step: through construction of specific DNA polynucleotide vaccines, to the administration of the DNA construct. In the instant specification, the *complete* nucleotide sequence of related plasmid constructions V1J (Figures 6A-D) and V1Jneo (Figures 7A-7D) are provided. Construction of V1Jns is expressly disclosed within the specification, is follows:

> In yet another embodiment, the ampicillin resistance gene is removed from V1J and replaced with a neomycin resistance gene, to generate V1J-neo (SEQ.ID:18:, Figure 7), into which any of a number of different influenza virus genes have been cloned for use according to this invention. *In yet another embodiment, the vector is V1Jns, which is the same as V1J except that a unique Sfi1 restriction site has been engineered into the single Kpn1 site at position 2114 of V1J-neo.* The incidence of Sfi1 sites in human genomic DNA is very low (approximately 1 site per 100,000 bases). Thus, this vector allows careful monitoring for expression vector integration into host DNA, simply by Sfi1 digestion of extracted genomic DNA.[1]

And at Example 12, page 69:

> EXAMPLE 12
>
> Production Of V1Jns
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> *An Sfi I site was added to V1Jneo to facilitate integration studies. A commercially available 13 base pair Sfi I linker (New England BioLabs) was added at the Kpn I site within the BGH sequence of the vector. V1Jneo was linearized with Kpn I, gel purified, blunted by T4 DNA polymerase, and ligated to the blunt Sfi I linker.* Clonal isolates were chosen by restriction mapping and verified by sequencing through the linker. The new vector was designated V1Jns (Figure 17). Expression of heterologous genes in V1Jns (with Sfi I) was comparable to expression of the same genes in V1Jneo (with Kpn I).[2]

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[1] Specification at page 25, lines 12-19. emphasis added.
[2] emphasis added.

The specification provides an in depth description of how each of the claimed constructs is generated such that an artisan of ordinary skill in the art would not be required to engage in undue experimentation in order to practice the invention.

Applicants take this opportunity to respond to the basis of a portion of the argument posed by the Examiner, namely comments forwarded in the sections entitled "Predictability of the Art" and "Quantity of Experimentation." In these sections, statements are made suggesting that a goal when practicing the invention is the integration of the plasmid vaccine into the host genome. This is not so. Actually, a safety related goal is the exact opposite: no integration of any plasmid DNA into the host genome. In fact, the main reason the Sfi1 site was added to V1Jneo (resulting in V1Jns) is that the incidence of this restriction site in human DNA is very low. The characteristic allows for more accurate preclinical and/or clinical safety-related experiments to more easily determine is any DNA plasmid may have in fact integrated into host genomic DNA.

Claims 1, 7, 10 and 11 are further rejected under 35 under 35 U.S.C. § 112, first paragraph, allegedly "as failing to comply with the enablement requirement." Applicants respectfully traverse this rejection through cancellation of claim 11.

In view of the above discussion, as well as cancellation of claim 11, Applicants respectfully take the position that the specification enables the artisan to practice the invention as presently claimed, including constructing a DNA plasmid vaccine vector such as V1Jns. In view of these comments, Applicants respectfully request withdrawal of these § 112, first paragraph rejections.

Rejection of Claims 1, 3, 7-9, 11 and 17 Under 35 U.S.C. § 112, Second Paragraph

Claims 1, 3, 7-9, 11 and 17 stand rejected under 35 U.S.C. §112, second paragraph as allegedly "being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention." Applicants respectfully overcome this rejection by amendment to claims 1, 3, 7, 8 and 9, as well as cancellation of claim11. Amendment to claims 1, 3, and 7-9 more particularly point out and distinctly claim the present invention.

More specifically:

Claim 1 is amended to more clearly recite that the generated immune response is to an influenza virus which will have infected the host animal cells.

Claim 3 is amended to more clearly recite a DNA vaccine which, upon host administration, may cause generation of neutralizing antibodies, or a specific CTL response, or a protective immune response. Also, the term "DNA pharmaceutical" has been replaced with the term --polynucleotide vaccine--.

Claims 7-9 are amended to clearly recite the intended use of any such vaccine; namely protecting against illness associated with infection of the host by human influenza virus. Additionally, Applicants respectfully take the position that the term "a prophylactically effective amount of the DNA of Claim 1" (or Claim 3 or Claim 2, as recited in currently amended claims 8 and 9, respectively) is fully supported by the specification. As an example, but not necessarily inclusive, support can be found at page 30, lines 13-25, page 30, line 30 - page 31, line 7; as well as a plethora of specific data (e.g., see Example 13), to guide the artisan as to what an effective amount of DNA may be required to generate a proper host response. The artisan can easily adjust levels in relation to various parameters, without any undue experimentation, as may be required for each specific DNA vaccine construct.

Claim 11 is cancelled. Applicants respectfully reserve the right to pursue this subject matter in any future continuing application.

Applicants respectfully overcome this §112, ¶2 rejection by amendment to claims 1, 3 and 7-9, as well as cancellation of claim 11. Therefore, respectfully request that this rejection be withdrawn.

Rejection of Various Claims under 35 U.S.C. § 102(b) or § 103(a)

Several art-based rejections were forwarded in the Office Action mailed 13 July 2004, as follows:

(1) Rejection of Claims 1-3 and 7-11 under 35 U.S.C. § 102(b), as allegedly being anticipated by Montgomery et al (DNA and Cell Biology, Vol. 12, issue9, pages 777-783, 1993." (herein, "Montgomery");

(2) Rejection of claims 1, 3, 7, 8, 10, 11 and 17 under 35 U.S.C. §103(a), as allegedly being unpatentable over Montgomery "in view of Felgner et al (US 5,580,859);

(3) Rejection of claims 1-3, 7-11 and 17 under 35 U.S.C. §103(a), as allegedly being unpatentable over Montgomery "in view of Robinson et al (US 5,643,578).

Applicant respectfully traverses each of the above mentioned rejections on the basis that Montgomery is not available as prior art against claims of this pending application. As detailed *supra*, Applicant, through petition and amendment, has cured any alleged break in continuity back to the original filing of U.S. application serial no. 08/032,383, filed 18 March 1993 (attached as Exhibit A) and a first CIP application filed 8 July 1993, assigned U.S. application serial no. 08/089,985 (attached as Exhibit B). In support of the §102(b)

rejection, the Examiner takes the position that Montgomery teaches "the construction of DNA vectors composed of the V1J plasmid backbone expressing the nucleoprotein or hemagglutinin influenza genes (pages 778-779), immunization of mice with the DNA constructs by the intramuscular route (page 778) and measuring the immune response generated by the immunization with the DNA vectors by survival after challenge with influenza virus and neutralizing antibody response and cytotoxic T lymphocyte response (pages 780-782). Thus, Montgomery et al teaches all that is recited in the instant claims." The Examiner relies on this similar teaching to utilize Montgomery as the primary reference to support the two §103(a) rejections. Both the '383 and '985 applications were on file prior to the November 1993 issue of DNA and Cell Biology. Of course, Montgomery is a subsequent scientific journal publication from the inventors detailing portions of the disclosure from both the '383 and '985 filings. Therefore, since no break exists in the continuing data back to these original filings, Montgomery does not support either of the three above-mentioned art-based rejections. To this end, Applicants respectfully request withdrawal of these rejections.

Applicants respond to and overcome the pending Section 112, first and second paragraph rejections, as well as the §102(b) and §103(a) art rejections in light of amendment to claims 1, 3, 7, 8 and 9; cancellation of claim 11, and the discussion supra. To this end, pending claims 1-3, 7-10 and 17 are in proper form for allowance. Early action to that end is earnestly solicited. The Examiner is invited to contact the undersigned attorney if clarification is required on any aspect of this response, or if any of the claims are considered to require further amendment to be placed in condition for allowance after entry of this Amendment.

Respectfully submitted,

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